

COAXIAL HORN ANTENNA SYSTEM**ABSTRACT OF THE DISCLOSURE**

An antenna feed system includes a plurality of RF horn antennas (201, 202) for operating on a plurality of RF frequency bands. A first one of the feed horns (202) can have a boresight axis and is configured for operating at a first one of the frequency bands. A second one of the feed horns (201) is positioned coaxially within the first one of the feed horns (202) and is configured for operating at least at a second one of the frequency bands. Further, the first one of the feed horns (202) is a corrugated horn that has a plurality of corrugations (204) formed on an interior surface defining a profile. The profile extends substantially from a throat (205) of the first feed horn and along a tapered portion of the first feed horn. The profile substantially minimizes an interaction of the corrugations with the second feed horn.